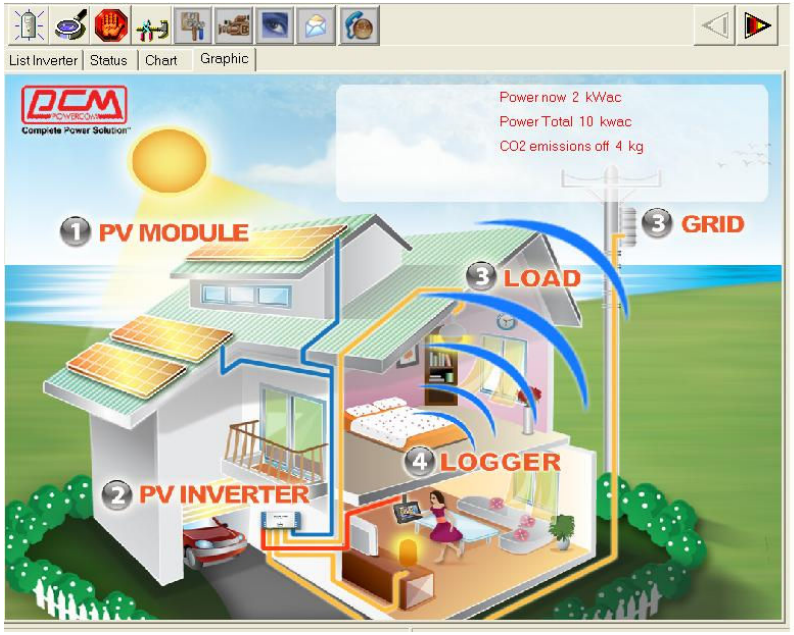
PCM Solar Control

User Manual



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Chapter 1 - Installation and Uninstallation

System Requirements

CPU: Pentium II 533MHz

OS: Win2000, WinXP

RAM: 128MB

Free hard disk space: 550MB for one year

RS232 port: An available communication on the computer

Installation of PCM Solar Control

Insert installation disk to your CDROM driver, the auto-run program will show the window as **Figure 1-1** in your computer. If the window does not appear, you can also double-click PCM Solar ControlSetup.exe icon in the CDROM or in the computer to install the PCM Solar Control.

Figure 1-1 Pre-Setup windows

After a while, you will see **Figure 1-2** Press <Next> to continue the installation processes or clicks <Cancel> to exit the installation. To continue, follow the instructions of installation program subsequently.

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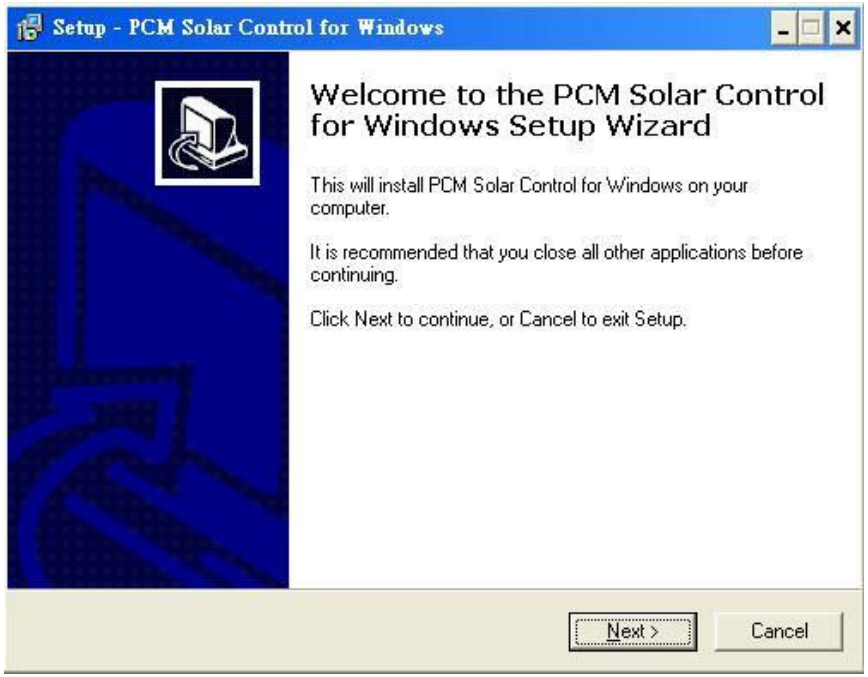
Setup - PCM Solar Control for Windows
Welcome to the PCM Solar Control for Windows Setup Wizard
This will install PCM Solar Control for Windows on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

Figure 1-2 Installation windows

Choose installation directory: You can change the program directory by filling the full directory name in or click “Browse” to find an existing directory. If you want use the default directory as **Figure 1-3** Click <Next>.

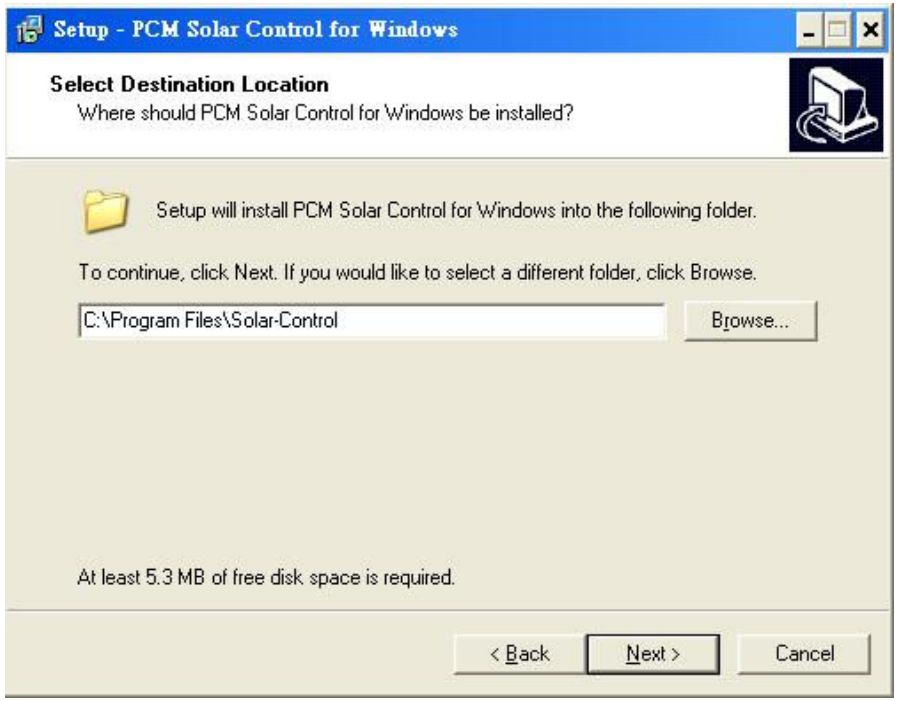
Setup - PCM Solar Control for Windows
Select Destination Location
Where should PCM Solar Control for Windows be installed?
Setup will install PCM Solar Control for Windows into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\Solar-Control
Browse...
At least 5.3 MB of free disk space is required.
< Back
Next >
Cancel

Figure 1-3 Program directory windows

Name the program: You can change, add or use default program name as showing in **Figure 1-4** .After entering all the information, click “Next”.

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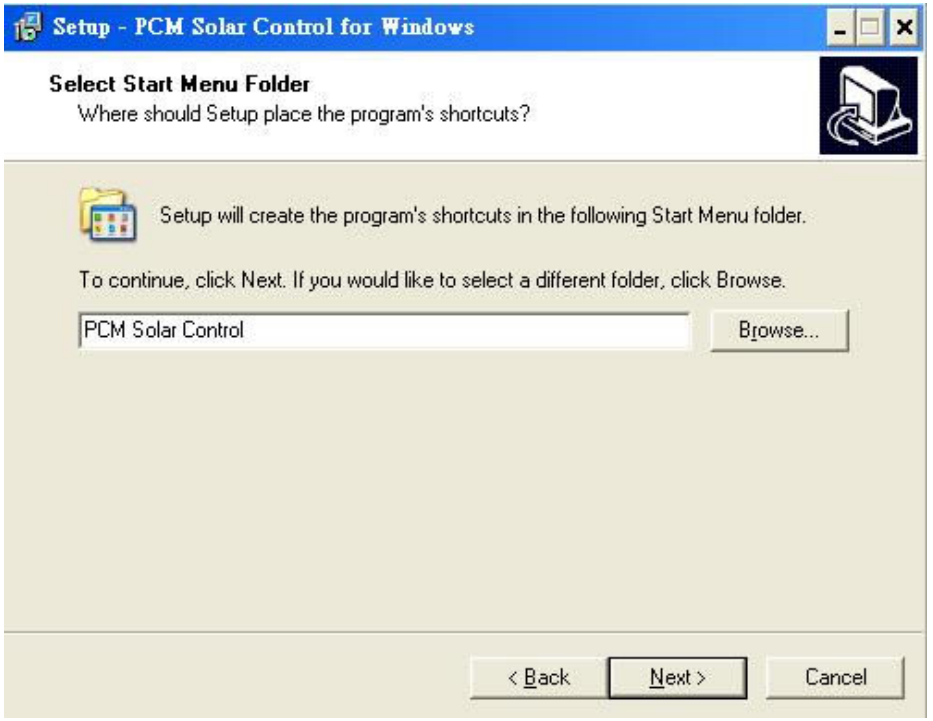
Setup - PCM Solar Control for Windows
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
PCM Solar Control
Browse...
< Back
Next >
Cancel

Figure 1-4 Program Folder windows

Installation confirmation: Confirm the setting of the installation as **Figure 1-5**. If you want to modify information of previous steps, just click <Back> to modify the settings. Click <Next> to start the installation.

Setup - PCM Solar Control for Windows
Ready to Install
Setup is now ready to begin installing PCM Solar Control for Windows on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files\Solar-Control
Start Menu folder:
PCM Solar Control
< Back
Install
Cancel

Figure 1-5 Installation setting windows

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Setup - PCM Solar Control for Windows
Completing the PCM Solar Control for Windows Setup Wizard
Setup has finished installing PCM Solar Control for Windows on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch PCM Solar Control
Finish

Figure 1-6 Installation complete

After installation is finished, the setup window will show the message that installation has completed (**Figure 1-6**), and you will see the short-cut icon in the [Start/Programs/PCM Solar Control] menus. The PCM Solar control display in window bottom. Start the monitoring software by double clicking the icon as in **Figure 1-7**.

Figure 1-7 PCM Solar Control program icon

- **Uninstallation**

To uninstall the program, just double click uninstall icon, “Uninstall PCM Solar Control.exe” in the same folder of Installation.

Chapter 2 - Operating PCM Solar Control

After installing PCM Solar Control, locate its icon or the desktop shortcut and double-click to start the program.

2.1 PCM Solar Control Main Menu

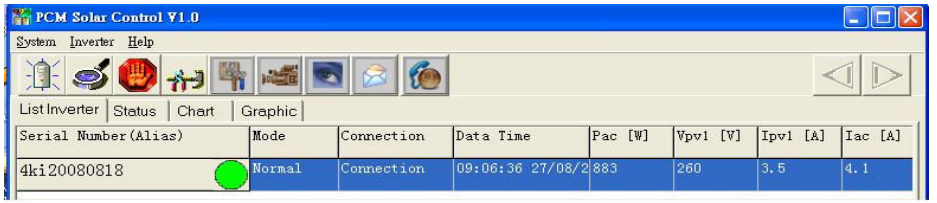


Figure 2-1 Main Menu

PCM Control Menu Bar

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

Figure 2-2 Menu bar function

The following table introduces the main menu and toolbar shortcuts.

Table 2-1 PCM Solar Control Main Menu and Toolbar	
Field	**Definition**
(1)Command Setup	Click this button to check the connected inverter
(2)Channel Selection	Click this button displays the channel for the current inverter
(3)Remove Inverter	Click this button to remove the disconnected inverter

(4)System Configure	Click this button to setup the com port and sampling time
(5)Inverter Data Setup	Click this button to setup inverter parameters
(6)Record Review	Click this button generate a graph of the current inverter data
(7)Event Review	Click this button change the event settings
(8)E-mail Setup	Click this button to mail the inverter message
(9)GSM Modem Setup	Click this button to send the inverter message
(10)Chosen Button	Click this button to chose the inverter and setting

Monitoring framework

Currently connected inverters are displayed in the main window on startup.

The following figure displays the root list populated with inverters.

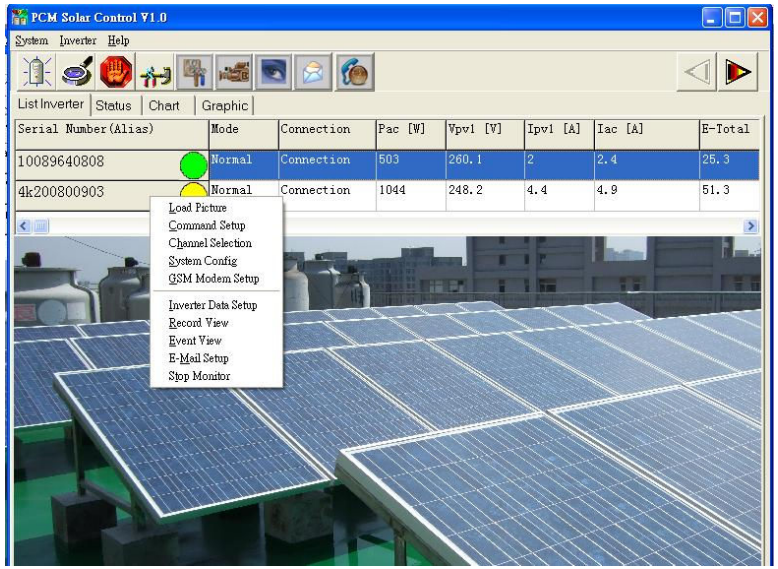


Figure 2-3 overview

2.2 Communication Setting

Every PCM inverter is equipped with a serial port. Directly connect your inverter to your PC via a serial cable and the RS232 or USB ports on the corresponding devices.

Direct Serial Connection

Connect an RS232 or USB cable from the serial port on your computer to the corresponding port on your inverter.

The default settings of PCM Solar Control are already optimally configured for most equipment. It is recommended that these settings with exception to the Com Port remain unchanged. To display or edit these settings please see Serial Communication Settings.

Serial Communication Settings

To configure PCM Solar Control serial (RS232) or USB connection, click **System configure** from the menu bar, and then select **COM port or USB**. The following window displays.

Note★ Hardware wiring and RS485 settings★

RS485 interface uses a higher voltage than RS232, and therefore it is recommended for use over long distances between inverters and PC.

There are four pins in a RS485 card, T+, T-, R+, and R-. If you want to link each inverter by a four-wire cable, be sure to make the correct connections.

You can also link each inverter via the telephone line (recommended).

Connecting multiple PV Inverters

If you want to connect multiple inverters, the optional RS485 card (optional) for each inverter is required. The RS485 card allows connection of multiple inverters in series. The first inverter connects your computer via an RS485-to-RS232 converter. The next inverter connects to the RS485 card of the first inverter. Subsequent inverters are daisy chained in the same fashion.

For more detailed information please refer to the RS485 card's manual.

Connection Troubleshooting

If the main window is empty then no inverter is detected. Please see the following procedure:

(1)RS232 Connection

- Check the cable connections between inverter and computer. Make sure both ends are well connected.
- Make sure there is no card in the RS485 expansion slot as it disables communication with RS232.

(2)RS485 Connection

- Check the RS485 card on each inverter is inserted correctly.
- Check the connection between inverters. The four wires on each terminal blocks (R+, R-, T+, T-) are fully secured.
- Check the wire connections on the RS485-to-RS232 converter. The terminals (R+, R-, T+, T-) on RS485 card must be connected to (T+, T-, R+, R-) respectively on the converter as the following table displays.

Table 2-2 Interface Exchange

RS485-to-RS232 converter	The inverters interface card
R+	T+
R-	T-
T+	R+
T-	R-

(3)Check the COM PORT settings in PCM Solar Control are correct; see Serial Communication Settings

(4)Click **Inverter** from the main menu, and then **Connection**. Now select "**Reregistered All Inverter**" to refresh the connections to your inverters.

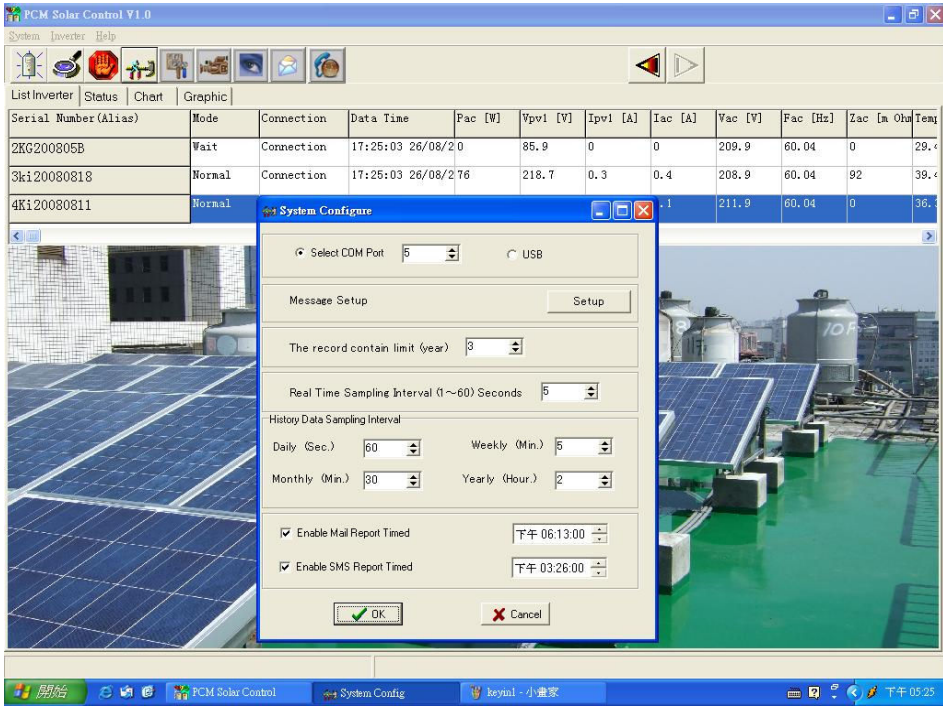


Figure 2-4 Communication Setting

The following table describes the fields in this screen.

Table 2-3 Communication Settings

Field	**Definition**
RS232 or USB	
Com Port	Select **Com Port** connected from your PC.
Message setup	Click to enable other program when failure detected.

The record contain limit	Select recording contain limit for your PC memory.
Real time sampling	Select interval sampling time for real time display.
Cancel	Click this button to exit the current window without saving.
Ok	Click this button to save your settings and exit the current window.

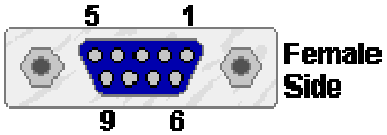
2.3. Interface location

This section is used to communicate with other PC; the RS232 interface is located behind the protection cover. Open this covers by screwdriver as figure below.

The pin definition is

Pin	Assignment Description
1	N.C.
2	TxD
3	RxD
4	N.C.
5	Common
6	N.C.
7	N.C.
8	N.C.
9	N.C.

*N.C. means “No Connection”



Chapter 3 - Inverter Parameter and Data

Adjusting inverter parameters

The parameters of each inverter can be adjusted remotely with **PCM Solar Control.** In the **Chosen Button** select the desired inverter to change. Click **Inverter Data Setup** in the main menu and then enable the function, and key in the password “administrator” then enter ”ok” into the parameter settings window.

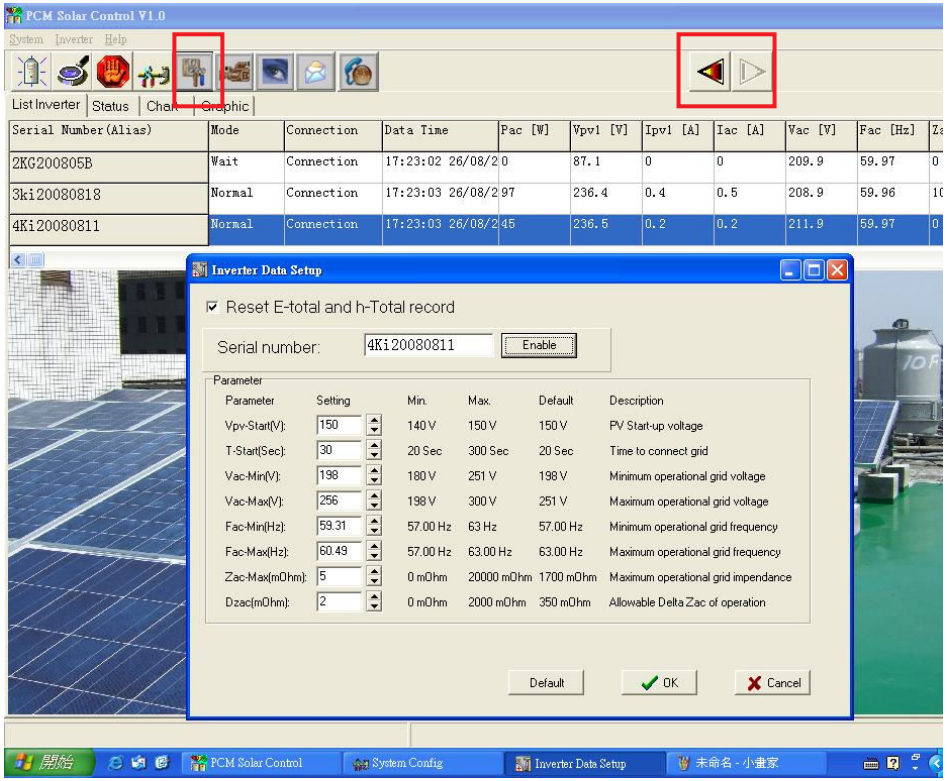

PCM Solar Control V1.0
System Inverter Help
List Inverter Status Chart Graphic
Serial Number(Alias) Mode Connection Data Time Pac [W] Vpv1 [V] Ipv1 [A] Iac [A] Vac [V] Fac [Hz]
2KG200805B Wait Connection 17:23:02 26/08/2 0 87.1 0 0 209.9 59.97
3ki20080818 Normal Connection 17:23:03 26/08/2 97 236.4 0.4 0.5 208.9 59.96
4Ki20080811 Normal Connection 17:23:03 26/08/2 45 236.5 0.2 0.2 211.9 59.97
Inverter Data Setup
Reset E-total and h-Total record
Serial number: 4Ki20080811 Enable
Parameter
Parameter Setting Min. Max. Default Description
Vpv-Start(V): 150 140 V 150 V 150 V PV Start-up voltage
T-Start(Sec): 30 20 Sec 300 Sec 20 Sec Time to connect grid
Vac-Min(V): 198 180 V 251 V 198 V Minimum operational grid voltage
Vac-Max(V): 256 198 V 300 V 251 V Maximum operational grid voltage
Fac-Min(Hz): 59.31 57.00 Hz 63 Hz 57.00 Hz Minimum operational grid frequency
Fac-Max(Hz): 60.49 57.00 Hz 63.00 Hz 63.00 Hz Maximum operational grid frequency
Zac-Max(mOhm): 5 0 mOhm 20000 mOhm 1700 mOhm Maximum operational grid impendance
Dzac(mOhm): 2 0 mOhm 2000 mOhm 350 mOhm Allowable Delta Zac of operation
Default OK Cancel
開始 PCM Solar Control System Config Inverter Data Setup 未命名 - 小畫家

Figure 3-1 Parameter Setting

When into the setting window, the parameter value can be modified by setting .after key in the new value please enter “ok” the bottom.

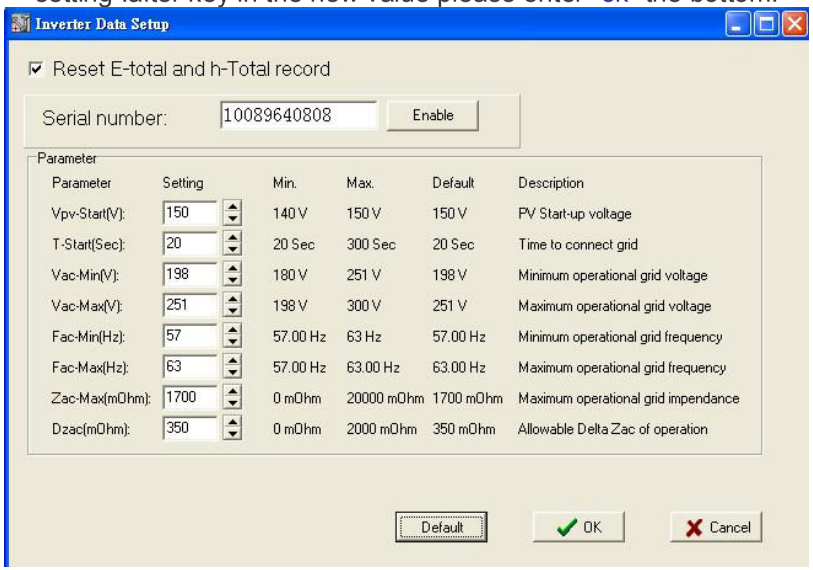

Inverter Data Setup
Reset E-total and h-Total record
Serial number:
10089640808
Enable
Parameter
Parameter Setting Min. Max. Default Description
Vpv-Start(V): 150 140 V 150 V 150 V PV Start-up voltage
T-Start(Sec): 20 20 Sec 300 Sec 20 Sec Time to connect grid
Vac-Min(V): 198 180 V 251 V 198 V Minimum operational grid voltage
Vac-Max(V): 251 198 V 300 V 251 V Maximum operational grid voltage
Fac-Min(Hz): 57 57.00 Hz 63 Hz 57.00 Hz Minimum operational grid frequency
Fac-Max(Hz): 63 57.00 Hz 63.00 Hz 63.00 Hz Maximum operational grid frequency
Zac-Max(mOhm): 1700 0 mOhm 20000 mOhm 1700 mOhm Maximum operational grid impendance
Dzac(mOhm): 350 0 mOhm 2000 mOhm 350 mOhm Allowable Delta Zac of operation
Default
OK
Cancel

Figure 3-2 Parameter setting status

The following table describes the parameters in this screen.

Table 3-1 Parameter Setting

Parameter	Definition
Vpv-Start(V)	This is the voltage required to start the inverter.
T-Start(Sec)	This is the time delay between reconnecting to the grid. (i.e. after a fault)
Vac-Min(V)	This is the minimum voltage that the inverter maintains grid connection.
Vac-Max(V)	This is the maximum voltage that the inverter maintains grid connection.
Fac-Min(V)	This is the minimum frequency that the inverter maintains grid connection.
Fac-Max(V)	This is the maximum frequency that the inverter maintains grid connection.
Zac-Max(mOhm)	This is the maximum impedance that the inverter maintains grid connection
Dzac(mOhm)	This is the maximum rate of change of impedance allowed by the inverter to maintain grid connection.

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To avoid accidental alteration of parameter settings, a password is required. To obtain this password please contact your local dealer.

Chapter 4- Basic Operation

Main Frame

After starting the PCM Solar Control, the main frame as Figure 4.1 prompts. The top of the main frame is MENU bar where user can operate this program by selecting the items and sub-items. In the status window is the inverter list serial number where the detected inverters connected to computer are listed and showing the real status by green/red/yellow symbols.

Once the program started, it will search Inverters connected to the computer automatically. In the mean time, PCM Solar Control will make a registration with each inverter. There will be a “registration number” between the software and each of the inverter. The registration number will not be changed even you “remove” the inverter from the list.

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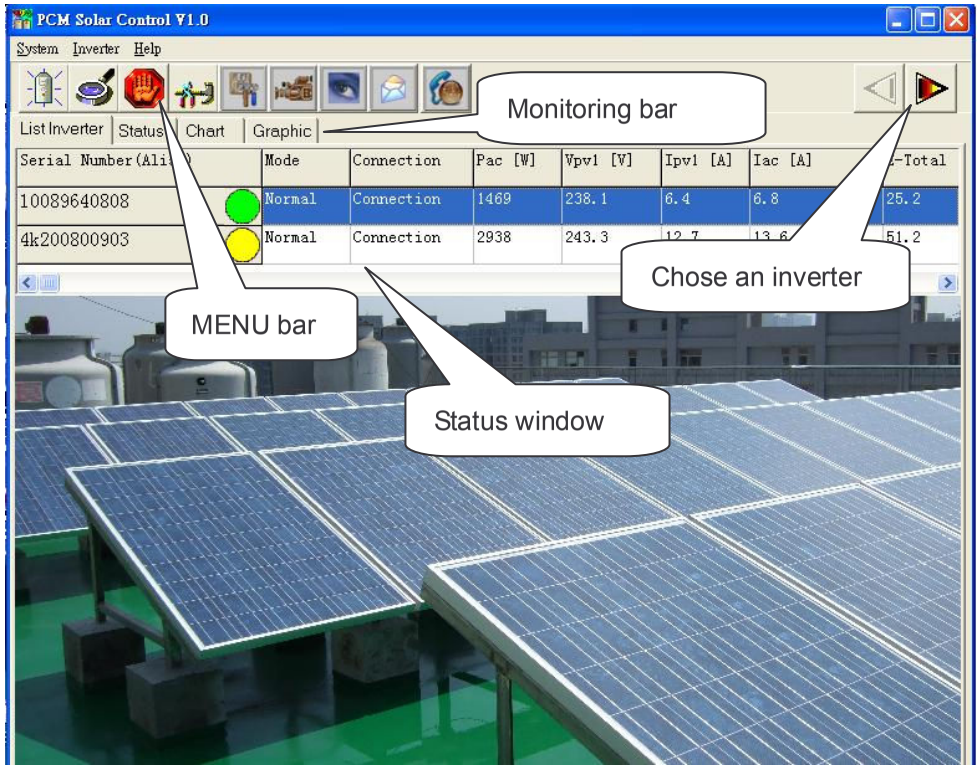

Figure 4.1

The inverter status window could be extend friendly when more inverters on the list window. After selecting an inverter, the inverter could setup the alias name and real-time chart in monitoring bar Figure 4.2. On the upper of status window, the monitoring data of selected inverter are listed; on the chart of the monitoring bar, the real-time graph such as AC power is shown. And the graphic bar will showing the photovoltaic system CO2 emission totally as Figure 4.3

Figure 4.2

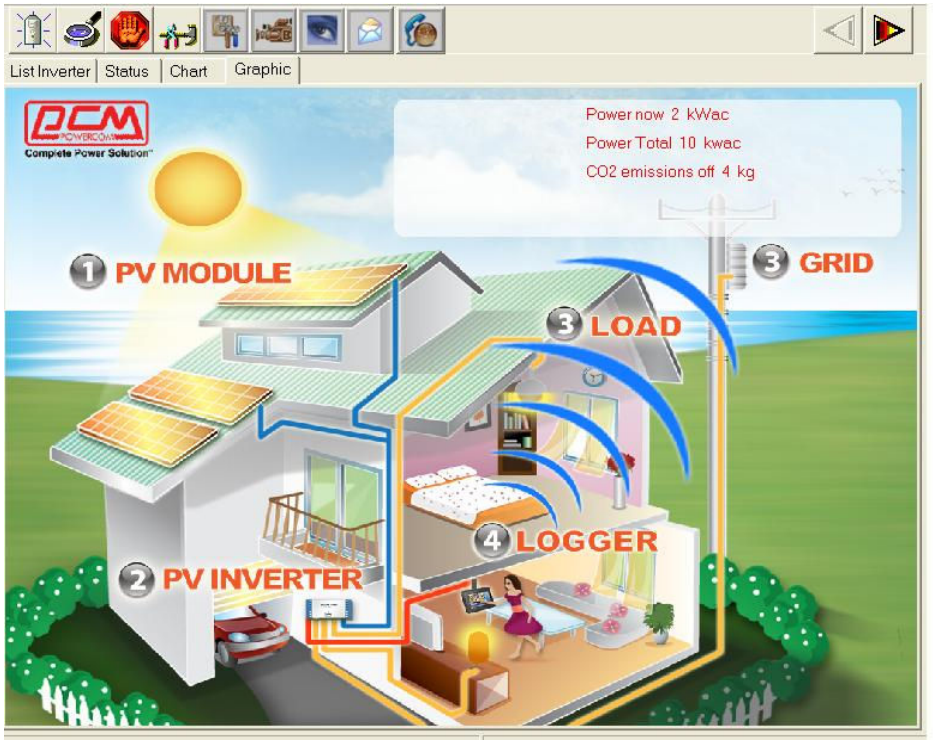

Figure 4.3

4.1 Monitoring data and window

The monitoring data of the inverters such as AC power and DC voltage are all listed in the window. The light color of the window can tell you the situation of selected inverter. The **Gray** indicates the status that the related inverter was connected but is not now. The **Green** represents the inverter without any problem and is connecting with your computer properly now. The **Yellow** as in Figure 4.3 indicates the status that one or more non-fatal errors of the inverter happened for the past 2 days, but they have been removed.

The **Red** condition represents the status that the selected inverter is encountering a Fault and does not work. After the fault is cleared, the light color will turn into Yellow and remain for two days.

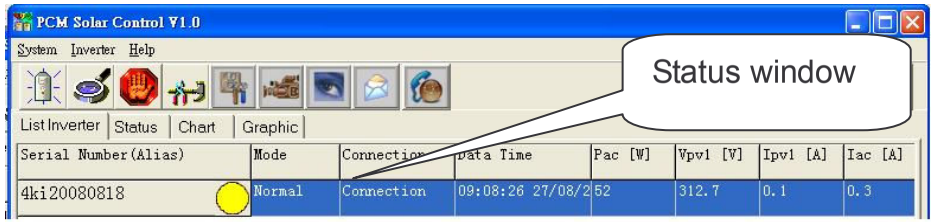

Figure 4.4

Figure 4.4 shows the Yellow situation that means some error has happened before.

4.2 Inverter list window

The inverters detected by the program are listed in status window. This number is the name of the inverter. If user wants to change the inverter's name, choose one inverter in the list first, double click your left mouse button on the number or name, key in desired name directly as shown in Figure 4.5.

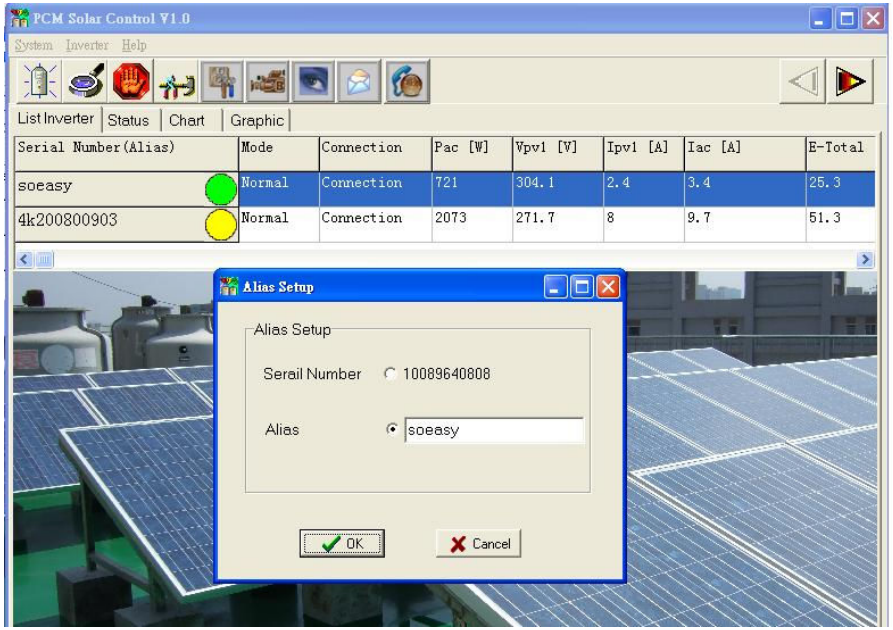

Figure 4.5

4.3 Record Data Graph

In the record review of the menu bar, there is a plot of selected channel. User can select 9 channels of different parameters or inverters to observe as Figure 4.6. This can help the user to understand the performance and problems of his system.

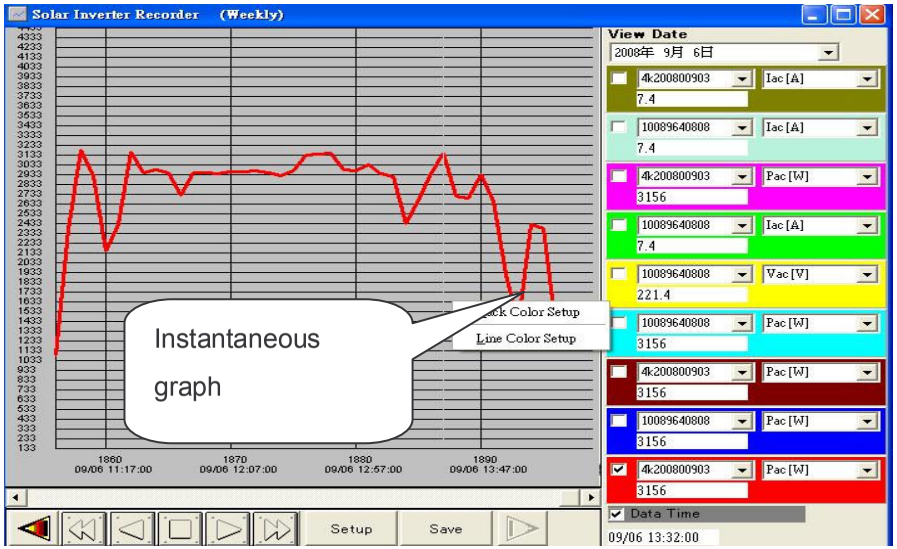

Figure 4.6

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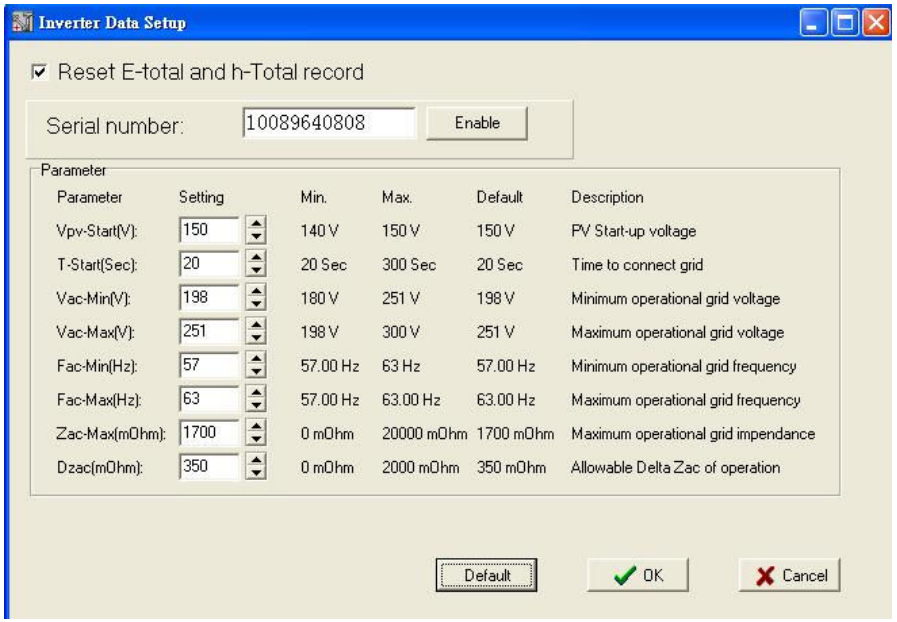
4.4 Inverter Data Setup

If you want to investigate more detail information of inverters, just select the inverter in the status window and click the inverter data setup of the menu bar.

The information full view window, which includes all the data of inverters as Figure 4.7, will prompt.



Parameter	Setting	Min.	Max.	Default	Description
Vpv-Start(V):	150	140 V	150 V	150 V	PV Start-up voltage
T-Start(Sec):	20	20 Sec	300 Sec	20 Sec	Time to connect grid
Vac-Min(V):	198	180 V	251 V	198 V	Minimum operational grid voltage
Vac-Max(V):	251	198 V	300 V	251 V	Maximum operational grid voltage
Fac-Min(Hz):	57	57.00 Hz	63 Hz	57.00 Hz	Minimum operational grid frequency
Fac-Max(Hz):	63	57.00 Hz	63.00 Hz	63.00 Hz	Maximum operational grid frequency
Zac-Max(mOhm):	1700	0 mOhm	20000 mOhm	1700 mOhm	Maximum operational grid impendance
Dzac(mOhm):	350	0 mOhm	2000 mOhm	350 mOhm	Allowable Delta Zac of operation

Figure 4.7

Chapter 5 - Menu bar Options

In the MENU bar, user can explore more functions of this program. Each function and meaning in the main frame is described as following:

Table 5-1 PCM Solar Control Main Menu and Toolbar	
Field	**Definition**
(1)Command Setup	Set up the conditions of connection.
(2)Channel Selection	Setting the parameter channel showing in status window
(3)Remove Inverter	remove the disconnected inverter
(4)System Configure	setup the com port and sampling time
(5)Inverter Data Setup	setup inverter parameters
(6)Record Review	generate a graph of the current inverter data
(7)Event Review	change the event settings
(8)E-mail Setup	mail the inverter message
(9)GSM Modem Setup	send the inverter message
(10)Chosen Button	Chose the inverter and setting

5.1 Inverter Command Setup

The connection menu bar is used to set up the connection between computer and inverters. Three functions can be utilized as Figure 5.1, and each function is described below:

1. **Reregistered Inverter:** Re-registered the selected inverter from list.
2. **Reregistered All Inverter**: Re-registered all the inverters in the system, which are removed by previous way.
3. **Check Inverter Join**: when new inverters join the system. The new inverters will easy to detect and the status window will showing.

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In case some inverters are not found in the list, user may use the function **Reregistered All Inverter** to explore missed inverters.

Figure 5.1

5.2 Channel Selection

Available inverters are displayed on the status window on that displays the inverter identity and fields that contain information about the internal status. The displayed fields are called channels. There are 25 channels available, suggestion from which 8 are displayed on the status window. Displayed channels can be customized with the channel selection window.

Select **one Inverter** from the main bar, and then click **Channel selection** to view the channel selection options.

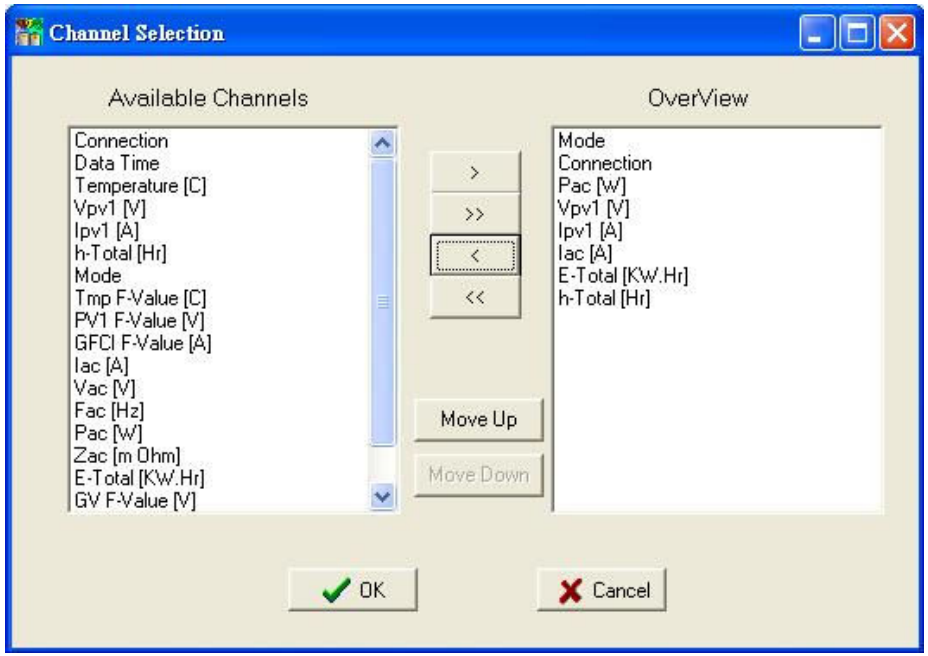

Figure 5.2

The following table describes the fields in this screen.

Table 5-2 Inverter Channels

Field	Definition
Available Channels	This field lists the channels that display on the inverter status.
> <	Select a channel in the Selected Channel list or the Available Channel list, and then click < or > to add or remove that channel.
>> <<	Add or remove all channels
Move up	channels ranking in the overview
Available Channels	
Vpv1	PV1 voltage
Ipv1	PV1 current

Iac	Grid current
Vac	Grid voltage
Fac	Grid frequency
Pac	Power supplied to the grid
Zac	Grid impedance
E-Total	Total energy supplied to the grid
h-Total	Total operating hours
Temperature	Inverter internal temperature
Cancel	Click this button to close this window without saving.
OK	Click this button to save the current settings and close this window.

5.3 Remove Inverter

Stop the inverter monitoring

The inverter status showing disconnected and you would like to take it off.

Please click the function as Figure5.3.

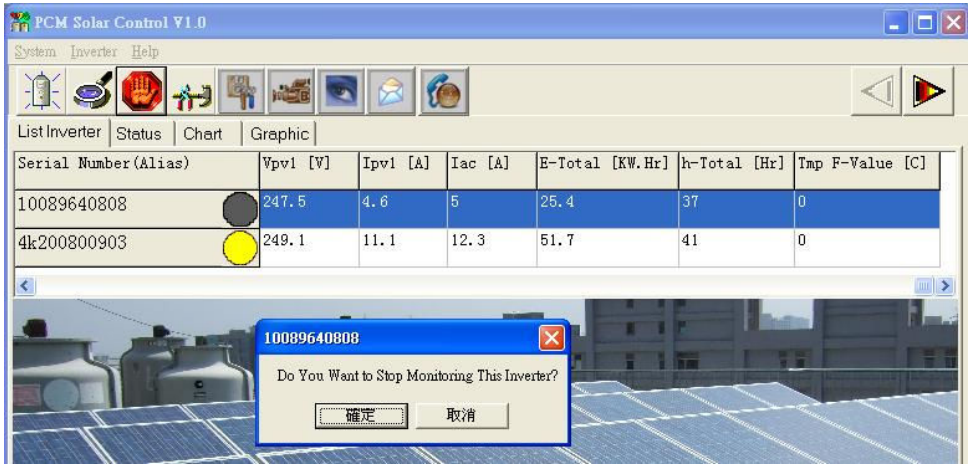

Figure 5.3

5.4 System Configure

There are 2 ways to connect Solar King inverter to a computer: by RS232

or by USB. To configure this, click the **System Configure** from the Menu Bar, a window will prompt as below Figure 5.4. The message Setup could be setting for other program executed when error happen, the setting as Figure 5.5.

The next step is to find the serial communication port where the RS232 cable or USB connected. Select the proper port in “Com Port” sub-menu and leave the other selection unchanged as Figure 5.4, the communication setup is done.

Select the sub-menu and then sampling time Setting. To change the frequency of recording samples, change the value (seconds) in the “Real Time Sampling Interval” field.

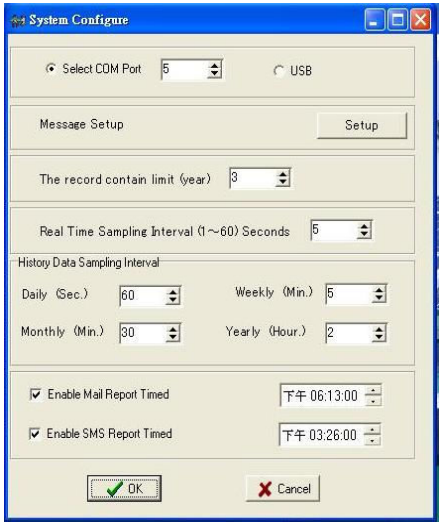

Figure 5.4

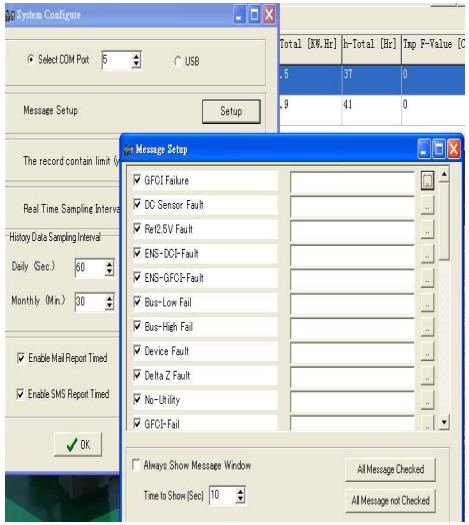

Figure 5.5

The following table describes the fields in this screen.

Table 5-3 sampling Setting

Field	Definition
Real Time Sampling Interval	
(1~60) Seconds	Enter the delay in seconds between data record entries.
Message Setup	
Time show	Setting error message setup, when error happen the message will alarming the user and operating some program.
History Data Sampling Interval	
Daily	Select the period in seconds to display the **Daily** history graph.
Monthly	Select the period in hours to display the **Monthly** history graph.
Weekly	Select the period in minutes to display the **Weekly** history graph.
Yearly	Select the period in hours to display the **Yearly** history graph.
Cancel	Click this button to close this window without saving.
OK	Click this button to save the current settings and close this window.

5.5 Inverter Data Setup

The Parameter setting is a function that is operated by qualified service personnel. This function is used to change the operational parameters of inverter. Once it is selected, the password window will appear as Figure 5.6 for prevention of unauthorized change:

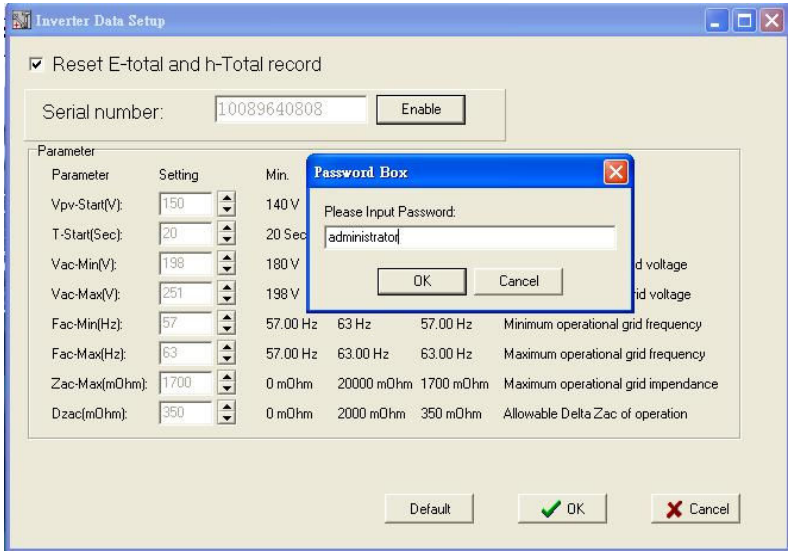

Figure 5.6

Follow the instruction to enter the correct password, if wrong password is entered, it will show the message: Incorrect Password! To get the password, please contact with local service agent.

Note: To prevent unexpected operation, it is necessary to enter the password before operation. Please contact with local agent if necessary.

Reset E-Total and h-Total

The function for reset E-Total (accumulated energy) or h-Total (total operation time) of specific inverter. Select one inverter first and click this option from the **Inverter Data Setup** as in Figure 5.6.

5.6 Record Review

To display the data history graph for an inverter, first select the inverter's serial number in the right Box as Figure5.7. Now go to the main bar and

select **Record review** and then **Setup**. Then to setup the **Show Type** to plot inverter data over a specified period. The following graphs displays the historical parameters output to the grid according to a time interval set in the graphic display screen. The display color setup of framework could be adjusted by clicking the right mouse bottom.

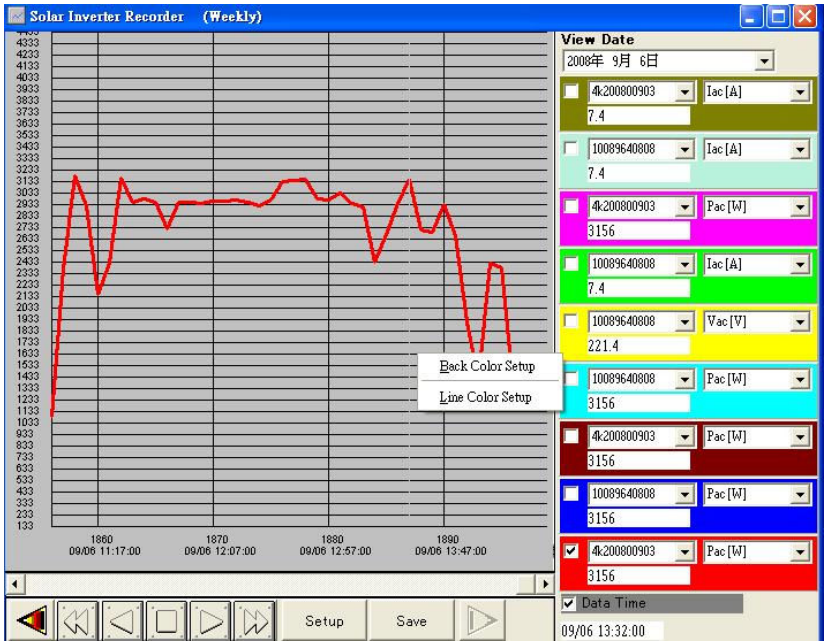

Figure 5.7

The following table describes the buttons in this window, showing as the Figure5.8.

Table 5-4 Record Review

Button	Definition
Setup	Click this button to show graphic display type
Save	Click this button to save the file for the data or image
View Date	Click the Browser to setup the date period

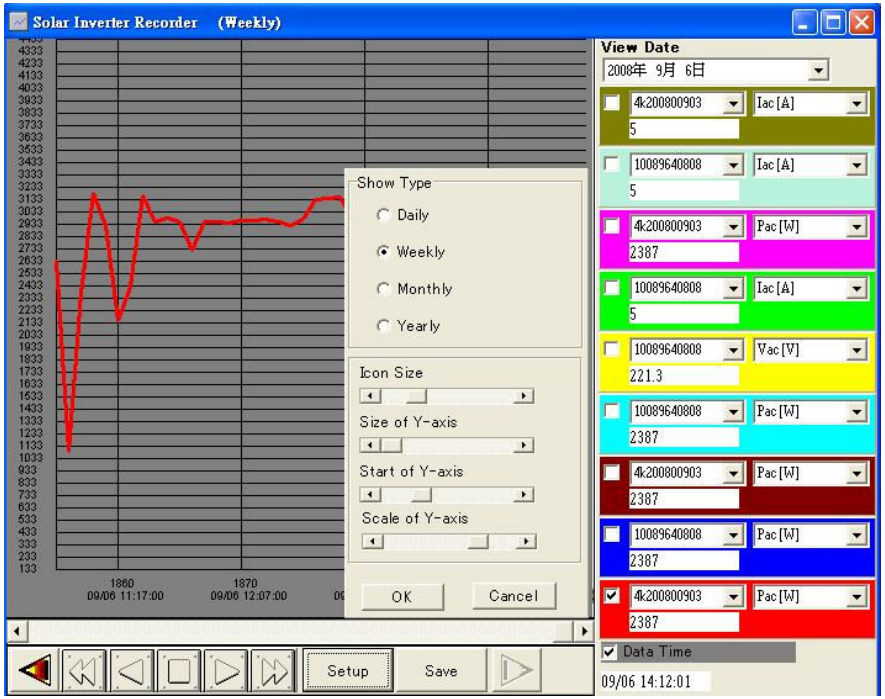

Figure 5.8

Data and Image Review

All monitoring data of inverters are automatically saved in the folder after starting PCM Solar Control, these file could only be seen in the window when save to files.

For the inverter you are interested to investigate, you can select the inverter from the 9 channels, select the inverter and parameters of data in each browser, choose the date and click the button "**save"** to load the data in this file Figure 5.9.

	A	B	C	D	E	F	G	H	I
1	Date Time	4Ki20080514 Vpv1 [V]	4Ki20080514 Ipv1 [A]	4Ki20080514 Vac [V]	4Ki20080514 Iac [A]	4Ki20080514 Temperature [C]	4Ki20080514 Fac [Hz]	4Ki20080514 E-Total	4Ki20080514 Pac [W]
2	2008/5/25 05:03	0	0	0	0	0	0	0	0
3	2008/5/25 05:13	0	0	0	0	0	0	0	0
4	2008/5/25 05:23	54.6	4.5	81.9	0	1.8	20.88	51.3	0
5	2008/5/25 05:33	188.1	10.6	191.1	0	30.1	49.56	128.3	5
6	2008/5/25 05:43	215.6	12.1	218.4	0	30.9	57.38	154	4
7	2008/5/25 05:53	217.6	12.8	219.4	0.2	32	60	154	43
8	2008/5/25 06:03	242.6	12.8	219.2	0.4	32.3	60	154	97
9	2008/5/25 06:13	266.9	12.8	219.3	0.5	32.8	60.01	154.1	106
10	2008/5/25 06:23	272.8	12.8	219.4	0.7	33.1	59.97	154.1	160
11	2008/5/25 06:33	268.6	12.8	219.2	0.5	33.9	59.93	154.1	118
12	2008/5/25 06:43	243.3	12.9	219	0.5	34.1	59.96	154.1	109
13	2008/5/25 06:53	271.8	12.9	219.2	0.9	34.4	59.96	154.1	134
14	2008/5/25 07:03	269.1	12.9	218.8	1.4	35.4	59.96	154.2	314
15	2008/5/25 07:13	269.6	12.9	218.6	1.3	36.1	59.99	154.2	348
16	2008/5/25 07:23	271	12.9	218.3	1.2	36.6	59.95	154.3	343
17	2008/5/25 07:33	271.1	12.9	218.4	1.8	37.5	59.99	154.3	392
18	2008/5/25 07:43	268.5	13	218.2	2.7	38.4	59.93	154.4	610
19	2008/5/25 07:53	269.3	13	219	4.1	39.8	60.02	154.5	891
20	2008/5/25 08:03	267.5	13	218.9	5.3	41.4	60.02	154.7	1128
21	2008/5/25 08:13	267.2	13	218	5.1	42.9	59.98	154.9	1141
22	2008/5/25 08:23	267.4	13	219.6	6.5	44.3	59.98	155.1	1394
23	2008/5/25 08:33	266	13	220.1	7	46	59.99	155.4	1658
24	2008/5/25 08:43	262.9	13.1	221	9.1	48.1	59.97	155.6	1908
25	2008/5/25 08:53	243.5	13.1	220.6	9.5	47.9	60	156	2127
26	2008/5/25 09:03	244.9	13.1	220.2	8	51.9	59.99	156.3	1655
27	2008/5/25 09:13	265	13.1	219.6	6.3	51.7	59.99	156.5	1415
28	2008/5/25 09:23	266.4	13.1	219.5	8.3	52.2	60	156.8	1911
29	2008/5/25 09:33	262.9	13.1	219.3	7.8	53.9	60.03	157.1	1668
30	2008/5/25 09:43	264.1	13.2	219.2	9.1	54.7	60.02	157.4	1912
31	2008/5/25 09:53	265	13.2	220.2	10.6	55.8	60.01	157.7	2437
32	2008/5/25 10:03	246.7	13.2	220.8	12.6	58.5	60.02	158.2	2665
33	2008/5/25 10:13	247.1	13.2	220	11.8	60.6	59.99	158.6	2680
34	2008/5/25 10:23	245.6	13.2	219.8	13.2	62.3	60	159.1	2964
35	2008/5/25 10:33	243.8	13.2	219.2	11.9	64.1	59.99	159.5	2707
36	2008/5/25 10:43	244.8	13.3	219	8.3	62.5	60	159.9	1694

Figure 5.9

In some cases, users may want to save the data transfer to excel file so that it is easier to analysis. The data in the windows will be saved to another file. The file format is a common format called XML which can be opened by MS EXCEL. In this function could easy to edit the inverter data for any type as Figure 5.10.

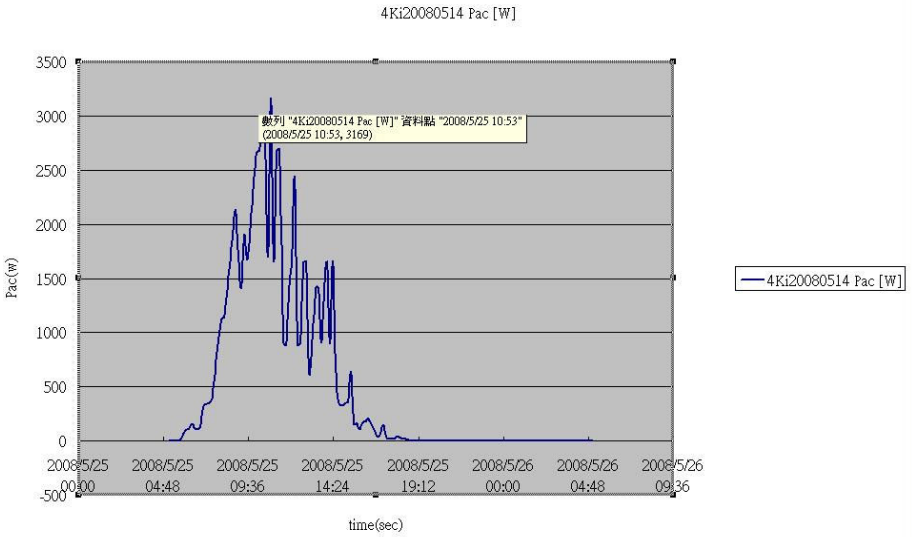

Figure 5.10

5.7 Event Review

Whenever the error and/or fault of inverters occur, the records are kept in one file. To check the file contents, click Event review in the menu bar, a window prompt as (Figure 5.11) can list the error history. This error history can help user to find some clues that inverter stopped. For further analysis, user can also save the record in XML file. He may send this file to his dealer to check if inverter does not function smoothly.

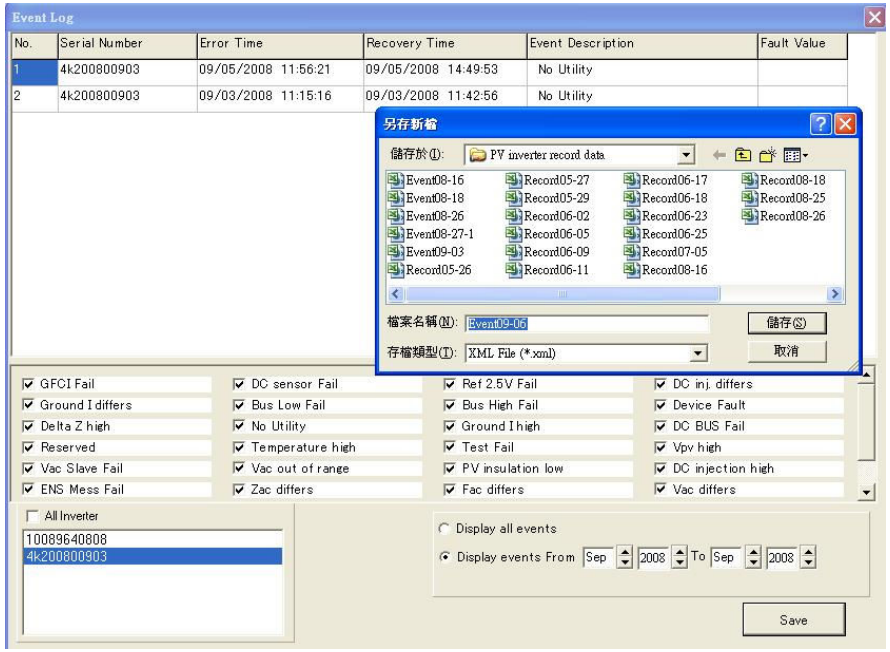

Figure 5.11

The data in the windows will be saved to another file. The file format is a common format called XML which can be opened by MS EXCEL. In this function could easy to edit the inverter data for any type as Figure 5.12.

	A	B	C	D	E	F
1	No.	Serial Number	Error Time	Recovery Time	Event Description	Fault Value
2	1	4Ki20080811	08/26/2008 09:04:33	08/12/2008 08:38:42	No-Utility	
3	2	4Ki20080811	08/26/2008 08:10:35	–/–/— –:–:–	No-Utility	
4	3	4Ki20080811	08/25/2008 15:30:54	–/–/— –:–:–	No-Utility	
5	4	4Ki20080811	08/25/2008 15:25:11	–/–/— –:–:–	No-Utility	
6	5	4Ki20080811	08/25/2008 15:13:59	–/–/— –:–:–	No-Utility	
7	6	4Ki20080811	08/25/2008 15:08:46	–/–/— –:–:–	No-Utility	
8	7	4Ki20080811	08/16/2008 14:18:51	–/–/— –:–:–	No-Utility	
9	8	4Ki20080811	08/16/2008 14:16:45	–/–/— –:–:–	No-Utility	
10						

Figure 5.12

5.8 E-Mail Setup

In case of a user wants to get report of the inverter, he may set up the time and events he wants to get the report. Check the Report Type as **Routine** and **Warning** to determine the moment and events to notice as Figure 5.13. When **Routing** is checked, the report will be sent according to time entered every day as Figure 5.14, the time setting is in **System Configure** below" **enable mail report timed"**. When **Warning** is checked, the report will be sent once any of the warning events listed in occurs. In the same manner, when **error** is checked, the report will be sent in any event listed in Table 5.15

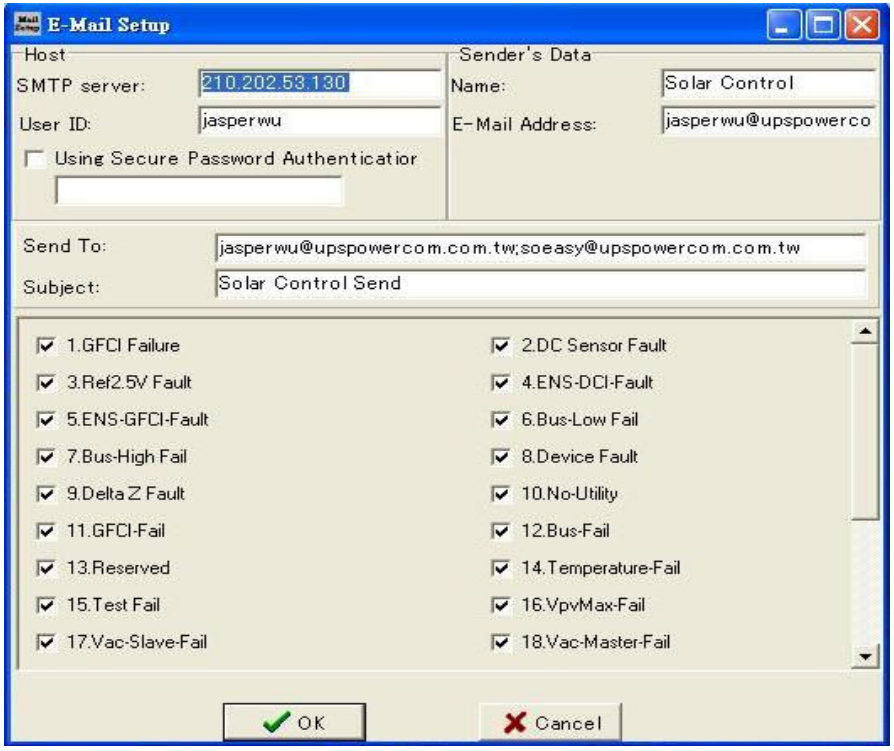

Figure 5.13

Inveter Routine Report IP: 10.192.173.83

	Value	Description
Alias Name	4k200800903	Inverter alias name or serial number
Temperature(Max)	48.8	°C:Inverter internal tempaerature
Vpv1(Max)	314.6	V:PV voltage
Ipv1(Max)	16.5	A:PV current
Iac(Max)	20	A:Current to grid
Vax(Max)	218.7	V:Grid voltage
Fac(Max)	60.11	Hz:Grid frequency
Pac(Max)	4311	W:Power to grid
Zac(Max)	153	mOhm:Grid impedance
E-Total	154.7	KWHr:Total energy to grid
E-Today	3	KWHr:Today energy to grid
h-Total	116	Hr:Total Operation hours
h-Today	5	Hr:Today Operation hours
Mode	Normal	Operation Mode
Error		

Figure 5.14

Inveter Warning Report IP: 10.192.173.83

Serial Number	4k200800903
Event Description	No Utility
Error Time	2008/09/08 16:29:07
Fault Value	

Figure 5.15

We suggest not checking **Warning** except it is necessary. During the operation, it may quite frequent that warning events occur every day.

There are three ways to send report: Storing to a **File**, Sending a **SMS** from GSM module, and Sending an **E-mail**. Choose the way by checking the options, fill in the file name and location to be stored, GSM number to get the report, or the email addresses where the report are going, the report will be sent according to the selection. Please indicate the Mail Server to sent the report by Email Figure 5.13. To know the Mail Server, please contact with local ISP (Internet Service Provider) for further information.

5.9 GSM Modem Setup

In case of a user wants to get SMS of the inverter status, he may set up the time and events he wants to get the report. Check the Report Type as **Warning** to determine the moment and events to notice as Figure 5.16. When **Routing** is checked, the report will be sent according to time entered

every day, the time setting is in **System Configure** below**" enable SMS report timed"**. When **Warning** is checked, the report will be sent once any of the warning events listed in occurs. In the same manner, when **error** is checked, the report will be sent in any event listed.

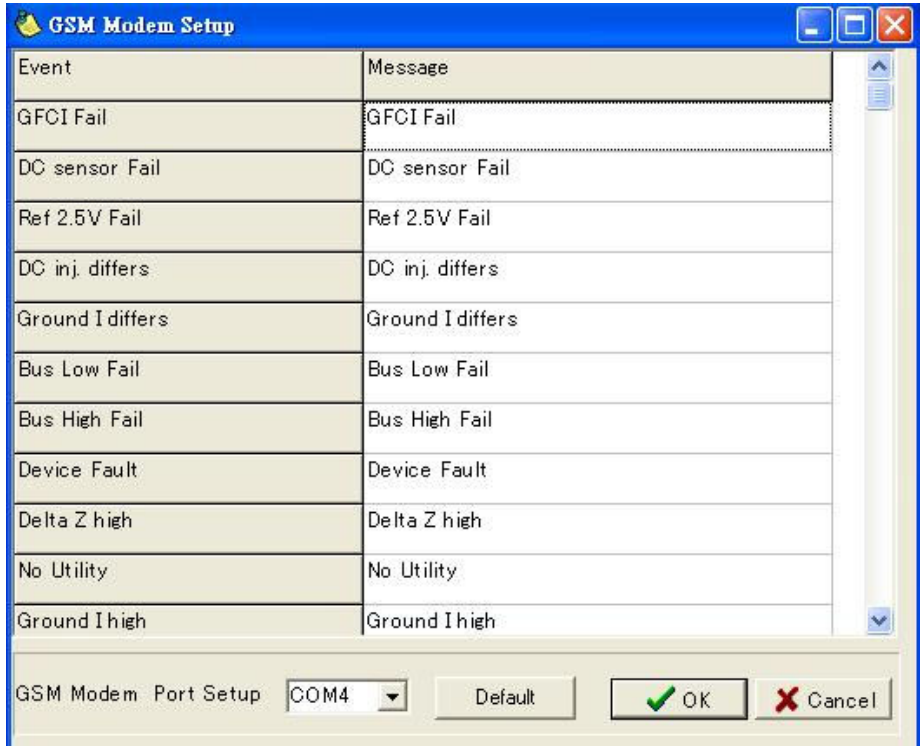

Figure 5.16

Help

The contents of help documents. Study this once any problem found.

About PCM

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